Exhibit C

IN THE COUNTY COURT AT LAW NUMBER THREE
EL PASO COUNTY, TEXAS
CAUSE NUMBER: 2004-526

EMMA H. GARDEA, Individually and as Personal Representative of the Heirs and Estate of Jose C. Gardea, Deceased,
Plaintiff,
vs.

ABLE SUPPLY COMPANY, et al.,

Defendants.
_____/

- - -

DEPOSITION OF THE WITNESS
DOUGLAS A. POHL, M.D., Ph.D.
TAKEN BY THE DEFENDANTS,
PHELPS DODGE REFINING CORPORATION
AND PHELPS DODGE INDUSTRIES

- - -

5 North A1A
Jupiter, Florida
Thursday, September 29, 2005
12:26 p.m. - 4:06 p.m.
Before Janette P. Hert, RPR, RMR, CRR
and Notary Public, State of Florida

APPEARANCES:

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APPEARANCES Continued:

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WITNESS:

DOUGLAS A. POHL, M.D., Ph.D.

EXHIBITS

(Defendants' Deposition Exhibit Nos. 1, 2 and 3 were marked for identification by the reporter.)

MR. NOVAK: I have not introduced myself to everyone here this morning. I'm Karl Novak with Richardson, Patrick out of Charleston.

Obviously we'll be conducting this deposition pursuant to the Texas rules, which there's no need to go out and specify what they are. We all know what they are.

We'll attach as Exhibit Number 1 a copy of the Notice to the deposition. I think there are multiple notices, so we'll attach any and all of the Notices to the deposition.

MR. ZOELLER: That's fine. I gave the court reporter the latest one, but we can attach the remainder ones.

MR. NOVAK: That's fine.

I don't have anything else to add. Please feel free to ask your questions.

THE REPORTER: Okay. Doctor, if you'll please raise your right hand, I'll swear you in.

DR. POHL: Okay.

THEREUPON,

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DOUGLAS A. POHL, M.D., Ph.D.,
called as a witness by the Defendants, Phelps Dodge Refining Corporation and Phelps Dodge Industries and being by the undersigned Notary Public first duly sworn, testified as follows:
THE WITNESS: I do.
THE REPORTER: Thank you.

DIRECT EXAMINATION
BY MR. ZOELLER:
Q. Dr. Pohl, good afternoon.
A. Good afternoon.
Q. My name is Paul Zoeller with the Law Firm of Kasowitz, Benson, Torres & Friedman representing Phelps Dodge Industries.
I know you've given a lot of depositions before. I've read a lot of them. So we'll try to keep the preliminary short and sweet and move this along.
The usual ground rules apply. If you don't understand my question, please let me know; I'll ask it again. And we'll try to not jump on each other so the court reporter can stay sane.
A. Understand.
Q. Okay. First, the court reporter has

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marked as Defendant's 1 here the Notices of deposition on this case.
I'd ask her to hand you a copy of that.
Have you seen that before?
A. Yes.
Q. Okay. You'll notice that there's a subpoena duces tecum attached to the back of it requesting production of numerous documents; is that correct?
A. Yes.
Q. Have you seen that before?
A. Within the last 24 hours, yes.
Q. Okay. Do you have any documents to produce at this period of time pursuant to that subpoena?
A. I do.
Q. Will you please produce or identify those documents that you have at this period of time?
A. What I brought is my file in the case of Mr. Gardea. The file contains a variety of different things. I also brought the expert witness offer for deposition and two copies of my curriculum vitae.
MR. ZOELLER: Can we have those marked

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sequentially?
THE REPORTER: Sure.
MR. NOVAK: Do you want to do them as a group?
MR. ZOELLER: Yes, I think we'll take his file as one group.
MR. NOVAK: That's easier, isn't it? We'll just keep them in the file.
THE WITNESS: Okay.
(Defendants' Composite Deposition Exhibit No. 4 was marked for identification by the reporter.)
MR. ZOELLER: Can we take a look at what's in the file, please?
MR. NOVAK: (Hands file.)
This is off the record.
THE REPORTER: Okay.
(Thereupon, there was a discussion held off the record.)
MR. ZOELLER: Just for the sake of the record, the file contains the following: Dr. Pohl's consultant report, a copy of the Notice of Deposition, a letter dated September 20th, 2005, from Leslie Henry at Hays, McConn, and then enclosed is another Notice of Deposition of

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Dr. Pohl, Hissey Kientz's letter dated September 19th, 2005, setting the location and time of the deposition, one copy of the curriculum vitae --
MR. NOVAK: As a courtesy, there's someone on the phone that is making some noise. Would it be possible for them to put their phone on mute?
Thank you.
MR. ZOELLER: -- a copy of a Fed Ex transmittal to Guy Smith at the Kientz Law Firm presumably from Dr. Pohl, an original of Dr. Pohl's report, a facsimile transmittal sheet from Dr. Pohl to Guy Smith, and a -- strike that, a letter dated March 22nd, 2005, enclosing various materials sent from Hissey Kientz to Dr. Pohl, and a copy of the pneumoconiosis evaluation offered by Dr. Segarra, and that's the full contents of the file.
And just give me one second. I want to take a look at this transmittal.
I'll pass this to you guys when I'm done.
It didn't take long to read it.
Q. (BY MR. ZOELLER) Let's launch ahead, Dr. Pohl.

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Your curriculum vitae that you handed us, that's current and up to date?
A. Yes.
Q. Your practice as a pulmonologist, is it split between working as an expert in clinical work or solely as an expert?
A. Well, first of all, I'm a pathologist, not pulmonologist.
Q. Oh, I'm sorry. I misspoke.
A. And I practice pathology at the Cleveland Clinic in Weston, Florida, and spend a lesser amount of time in evaluating cases that involve asbestos injury.
Q. Roughly what percentage of your time is spent evaluating cases involving asbestos injury?
A. About 15 percent.
Q. Is that for plaintiffs and defendants, all for plaintiffs?
A. Mostly for plaintiffs. I have done a couple cases for defendants.
Q. In the area of asbestos, have you ever done any work for defendants?
A. That's what I was alluding to, yes.
Q. Okay. For who did you do such work?
A. It was an attorney in Maine who had a

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couple cases of mesothelioma with a short latency period between exposure and development of the disease.
Q. Okay. And what was the nature of your testimony in that matter, if you recall?
A. Essentially that an exposure within seven years of the development of the disease would not have contributed to the patient's mesothelioma.
Q. Dr. Pohl, what states are you licensed to practice medicine in?
A. Maine, Florida, and Massachusetts.
Q. And what specialties do you hold at this time?
A. I'm a specialist in clinical pathology, anatomic pathology, and cytopathology.
Q. Going back to your work as an expert, you've testified, I know, in depositions. Approximately how many?
A. Certainly at this point in time, more than 50 times.
Q. Okay. Any of that testimony again for defendants?
MR. NOVAK: Excuse me, I want to make a clarification as relates to the question.

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You assume that, in the deposition, he's only testifying at the request of defendants today and at other times.
When you make the distinction, are you making the distinction as it relates to plaintiff cases or at the request of whoever took the dep?
Q. In any of the depositions you testified, were you retained by plaintiff's counsel -- I mean by defendant's counsel, I'm sorry?
A. I don't believe so.
Q. Okay. Same question as to trials: On any of the trials, were you retained by defendant's counsel?
A. No.
Q. And how many trials have you testified in?
A. I'd estimate probably 20 to 30 over the years.
Q. Okay. I take it you're not licensed in the State of Texas, Doctor?
A. That's correct.
Q. Have you ever had your license suspended or any privileges suspended in any way?
A. No.
MR. NOVAK: Excuse me, John -- or Paul.

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There is someone on the phone that is doing something that's very distracting. Whoever it is, I think you're writing, and you're writing next to the phone.
As a courtesy, we've put the speaker right next to the doctor so you can hear what he says, but we'll move it if we continue to have to listen to somebody that's on the other end of the phone.
Q. (BY MR. ZOELLER) Okay. Roughly, Doctor, on average, how much time do you spend per month in hours working as an expert witness?
A. It would just be a guess. I'd have to say maybe 16 hours a month, something like that.
Q. Okay. You've stated that most of your specialties are in the field of pathology and related fields.
I take it you're not an oncologist, Doctor?
A. That's correct.
Q. And you're not a pulmonologist, correct?
A. Correct.
Q. Okay. You're not a certified B-reader?
A. That's correct.
Q. Are you an industrial hygienist, Doctor?

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A. No.
Q. Epidemiologist?
A. No.
Q. Toxicologist?
A. Toxicology is a part of clinical pathology, so, yes, I'm familiar with toxicology.
Q. Well, my question is: Would you consider yourself a toxicologist?
A. I'm not a Ph.D. level toxicologist, no.
Q. When were you first retained to represent -- I'm sorry, to work for the plaintiffs in this case?
A. According to the file, I believe it was early summer of this year to look at the Gardea case.
Q. Okay. And what specifically were you asked to do regarding the Gardea case?
A. My recollection is I was forwarded a collection of medical records related to Mr. Gardea as well as cytology slides from a pleural fluid that was obtained from Mr. Gardea. I was also provided with a fairly comprehensive occupational history.
And the initial request was that I

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evaluate Mr. Gardea's lung cancer and determine whether his lung cancer was in any way related to his prior asbestos exposure.
Q. Had Mr. Gardea, at the time you were retained, been diagnosed with lung cancer?
A. It's my recollection that he had not.
Q. Okay. So how did the notion of him having lung cancer arise? You were asked to evaluate the causes of it.
A. Well, that was actually the question that I raised with one of the paralegals. I think that there were clinical findings of bilateral lung masses, and I think Mr. Gardea expired before any further evaluation could be undertaken.
So I was being asked to review the available cytology and determine whether there was a lung cancer in Mr. Gardea and whether his asbestos exposure played a role.
Q. Now I want to be very clear and concise about this. Could you list to me, A, what exact pathology, cytology were you given?
If you need to refer to your report, that's fine.
A. That would be helpful.
Q. Well, let me --

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A. Actually I have a copy of it here.
MR. RICE: Do you need the letter from --
THE WITNESS: Not at present.
I was forwarded four H&E stained slides and two smears that were labeled SL:CY02:124.
Q. (BY MR. ZOELLER) Okay. Were you given any other materials to evaluate Mr. Gardea?
A. I was also provided with a paraffin block with the same -- actually with a different designation. It was SL:CY97:27.
Q. Okay. Were you given any other medical records at all?
A. Yes, I was given a collection of medical records that were forwarded to me.
Q. Can you specify what records you were given, please, Doctor?
A. They're pretty much summarized in my clinical summary. They were the reports of Dr. Shahar, who is a pulmonologist, and the medical records from East Houston Medical Center concerning Mr. Gardea's care.
Q. When you refer to the medical records from Dr. Shahar, that's the medical records of 2-20-97?

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A. Yes.
Q. Did you see anything else from Dr. Shahar?
A. No, I didn't have any office notes from Dr. Shahar.
Q. Okay. As to the East Houston Medical Center, again, I see a notation related to documents -- to records dated June 25th, 2002.
Is that the only medical records you received from East Houston?
A. Yes, they were the medical records concerning that hospital admission and the care during that admission.
Q. Okay. Did you see any other medical records at all relating to Mr. Gardea?
A. I did not.
Q. Were you given any other information regarding Mr. Gardea's medical history?
A. No, just what was contained in those records.
Q. I note also -- were you given the report of Dr. Segarra?
A. Yes, I was.
Q. And did that come with the original materials?

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A. It did.
Q. Was there anything else other than we mentioned that you were provided regarding Mr. Gardea in terms of rendering your opinion?
A. I'd like to look at the cover sheet, if I could.
MR. RICE: (Hands documents.)
THE WITNESS: No, that's a copy of my reports.
MR. RICE: Oh, I'm sorry.
MR. NOVAK: Would it be possible if he just gets his file back?
MR. ZOELLER: Yes, I gave him the file back except for the cover sheet, which Mr. Rice was looking at.
MR. NOVAK: Okay. Thank you.
THE WITNESS: I don't believe so. The only other thing I remember is that I did receive an e-mail from a paralegal at the firm that asked me to expedite the case, but that's the only other communication I had.
Q. (BY MR. ZOELLER) There's nothing else at all that was relevant to your rendering an opinion in this case?
A. That's correct.

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Q. I take it then based on that you've never seen any depositions in this case?
A. Not at present, that's correct.
Q. Okay. I notice in your report you relate a work history for Mr. Gardea.
Am I right to assume that that work history was what was contained in the cover letter sent to you by Hissey Kientz?
A. That's correct.
Q. Did you see any other information at all regarding Mr. Gardea's work history?
A. No.
Q. Okay. So any recitation that's based in your report is based solely on counsel's representations concerning work history, correct?
A. And also the summary that was in Dr. Colella's report as well.
Q. Which report would that be, sir?
A. It was the one that was -- I'm sorry, Dr. Segarra.
Q. Okay. Do you know the source of Dr. Segarra's information regarding work history?
A. I don't.
Q. Does it largely agree with the work history you were provided?

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A. It's similar, but it's much more detailed. It gives some insight into the types of activities that he engaged in and how he was specifically exposed to asbestos.
Q. Let me ask the question a different way, Doctor.
Were your understandings about his work history any different from those referenced in Dr. Segarra's report?
A. In terms of the sites of exposure, I think it's consistent with what was provided with the cover letter from Hissey Kientz.
But, as I said, it seems to me that Dr. Segarra either spoke to Mr. Gardea directly or had other information because he talked specifically about the types of things that he did, which is not contained in the cover letter.
Q. In your view, Doctor, was the work history of Mr. Gardea important to your diagnosis, sir?
A. To the diagnosis, no.
Q. Okay. Was it considered at all in reaching your diagnosis of malignant mesothelioma?
A. No.
Q. Do you agree with the proposition then,

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Doctor, that some mesotheliomas occur without exposure to asbestos?
A. Yes. By definition, spontaneous or idiopathic mesotheliomas are those that occur in patients with no documented history of asbestos exposure in the past.
Q. Okay. And do you believe that that actually means that they were not exposed to asbestos, Doctor?
A. What it means is that, despite best efforts, there are cases that are found where no asbestos exposure can be documented.
Q. Fair enough.
Okay. What basically -- well, let me backtrack.
What exactly was your opinion in this case, Doctor, regarding Mr. Gardea's condition?
A. Well, to be honest with you, when I initially reviewed the medical records, I called the law firm of Hissey Kientz and raised my concern that there was absolutely no mention in the records of any lung cancer; and, therefore, I voiced my concern that perhaps this man had no malignancy at all.
Subsequent to that discussion, I went

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ahead and reviewed the cytology and found that, in fact, he did have a malignancy.
Q. Was this case sent to you as a lung cancer case? Were you told it was a cancer claim?
A. Yes. I think the cover letter speaks for itself. Mr. Gardea was diagnosed with lung cancer in July of 2002.
Q. Okay. Now, again though, I want to go back. One, the prior question, I ask it be struck as nonresponsive, and I'll ask you the question again, which is: What was your diagnosis in this case?
A. In this case, the diagnosis is malignant pleural mesothelioma.
Q. And what did you base that diagnosis on?
A. On the evaluation of the pleural fluid cytology slides that were sent to me.
Q. Was there any other factor other than the fluid cytology that was important to your diagnosis, sir?
A. No.
Q. Okay. And, just so we're clear, so the sole basis is the cytology, correct?
A. That's correct.
Q. Now, in your report, Doctor, you opine

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that the cause of this mesothelioma was occupational, correct?
A. Yes.
Q. And, again, that was based on the work history you received, correct?
A. That's correct.
Q. And what particularly in that work history led you to believe that it was an occupational exposure history here? What factors were important to you?
A. The description of the types of work that was done: carpenter, sandblaster, painter, and insulators.
These are occupations which, at the point time in time that Mr. Gardea was working in those professions, would have come into contact with asbestos materials.
In addition, as I have already mentioned, Dr. Segarra and his information give more pointed descriptions of the types of materials that Mr. Gardea worked with, for example, drywall and sheetrock material, which were known to contain asbestos, as well as insulating materials.
So the information provided by Hissey

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Kientz and Dr. Segarra form the basis of my understanding that Mr. Gardea was exposed to asbestos.
Q. Okay. Is it your position that carpentry is a profession with a high incidence of exposure to asbestos?
A. Absolutely. In fact, Dr. Selikoff, way back in the '60s, remarked and named specifically carpenters as being the type of bystander occupation that had inadvertent bystander exposure to asbestos.
Q. That would be limited to certain industrial settings, wouldn't it, Doctor?
A. It depends on the type of carpentry work and the industrial or residential setting, yes.
Q. And that's my point; you'd need to know a lot about what was going on around the carpentry to make that conclusion that carpentry was a profession with a high likelihood of asbestos exposure, correct?
MR. NOVAK: Object to the form of the question. Argumentative.
THE WITNESS: I think it's clear from the medical literature and multiple depositions that I've read over the years that carpenters were

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often exposed to asbestos, maybe not constantly, but certainly in certain job sites, they did sustain asbestos exposure.
Q. (BY MR. ZOELLER) And my question was simply: But that would be dependent upon what was going on around the particular carpenter, correct?
A. Not necessarily because carpenters also do plaster work, drywall work, and so some carpenters working directly with asbestos containing drywall materials would have been directly exposed to asbestos.
Q. Okay. So you're very comfortable with the generalization that carpentry itself is a high exposure potential occupation?
A. Yes, I am.
Q. Okay. Now, again, going back to your statement linking the diagnosis of malignant mesothelioma to occupational exposure, would your opinion change if his work history was substantially different?
A. Of course it would. If someone stated that he had no asbestos exposure, it would change my opinion.
Q. Well, for instance, if an individual was

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not performing insulation work and you believed they were, would that be something that may change your opinion on causation?
A. It's possible, but I'd have to have more detail if certainly there were other exposures that occured in addition to the insulation.
Q. But if the facts as you understand them are materially different, where this man was doing different types of tasks than you had been told by Hissey Kientz, that would impact your diagnosis, correct?
A. Not the diagnosis.
Q. I'm sorry, your opinion on causation?
A. I'd have to have more information to answer that question.
Q. And assuming what is in those reports is incorrect, is not a correct recitation of this man's job history, would that negate your opinion as to causation?
MR. NOVAK: Object to the form of the question. Calling for speculation.
Q. (BY MR. ZOBLER) It's a hypothetical. Hypothetically, if you had a completely different work history or a materially different work history, would that impact your opinion?

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A. If the work history was such that there was absolutely no asbestos exposure at all during this man's occupational career, yes.
Q. Now you mentioned a number of samples that you received, some fluid cytology and a paraffin block, correct?
A. Yes.
Q. Did you review all of those samples?
A. Yes, I did.
Q. Were all of those samples relevant to your determination of this being malignant mesothelioma?
A. Only the six slides from the pleural fluid. Those are the only relevant samples.
Q. We'll get back to that a little bit later.
When you reviewed the slides to make your diagnosis, what methodology did you use in that review?
A. It's no different than what I do in my day-to-day practice of pathology.
First, I look at the individual slides to see what they are. I look at their accession number and compare it to the original report to make sure I have the slides from the right patient

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and the right procedure.
And then I systematically evaluate the slides microscopically for the underlying disease process, and that's exactly what I did in this case.
Q. When you're looking, what equipment are you using to review those slides?
A. I have an Olympus microscope which is fitted with a digital electronic camera that's capable of taking photographs.
The range of magnifications in the microscope are forty to one thousand-fold magnification. The microscope can do both light microscopy and phase contrast microscopy.
Q. By the way -- I want to go back. You looked at those slides.
-- would other pathology have been helpful to you in reaching a diagnosis here?
A. Certainly it would have been nice if a thoracotomy or a pleural biopsy or some other procedure had been done, but that had not been done in Mr. Gardea, so I worked with what I had.
Q. Are the items you just mentioned more reliable diagnostically for mesothelioma?
A. I'm not sure I understand the term "more

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reliable."
Q. In other words, is it easier to get a definitive diagnosis, for instance, using biopsy or using a tissue sample than cytology?
A. Sometimes, but the whole purpose of cytology is to avoid more invasive procedures, and cytology is widely recognized as a highly accurate diagnostic discipline within pathology that, in many cases, eliminates the need for biopsy.
Q. By the way, when you were looking at the slides, did you look to see or is it possible to look to see if there was fiber present, asbestos fiber?
A. Certainly if it had been present, I would have noted it. I don't believe it was present in this case.
Q. So you did not see any asbestos fiber in the samples you reviewed, correct?
A. That's correct.
Q. By the way, were all the slides you reviewed slides of the -- they were all cytology, correct?
A. Yes.
Q. So none of them were slides of the aborted tumor, correct?

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A. If there were slides of a tumor, I'm not aware that they exist. I never saw any.
Q. Okay. You've testified in a number of -- I'm sorry, you testified that you've testified for the plaintiffs in a number of asbestos lawsuits, correct?
A. Yes.
Q. How many of them would have been mesothelioma cases?
A. Probably most of them. It just seems like most of the cases that finally wind up in court are mesothelioma cases. So I would estimate 80 percent.
Q. Now let me broaden this a little bit. In this case, you've testified that you reached your diagnosis on the basis of cytology alone, correct?
A. Yes.
Q. How many other cases have you been retained in where you reached a diagnosis of mesothelioma based solely on cytology?
A. Well, understanding that those would be specific cases in which cytologic material only was available, I'd say about ten percent of all the mesothelioma cases are of that type.

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Q. I'm asking specifically, Doctor, where you rendered the diagnosis. Would you say ten percent of the cases that you diagnosed were based on cytology alone?
A. In my primary practice of pathology?
Q. I'm talking about solely litigated cases, Doctor.
A. Again, I said it was about ten percent of the cases in which I was asked to render an opinion at trial involved cytology only.
Q. Do you have records that would indicate what those cases were?
A. I certainly keep records. I'd have to go back and look at them. But, for example, the very first case that I ever testified in was a cytology-only case in South Florida.
Q. Okay. What I'd like you to do, Doctor, is -- we will leave a space open in the deposition for any cases where you rendered a diagnosis based on cytology alone.
I'd like identifying information about that litigation, please, to the extent you can provide it.
MR. NOVAK: I'm not sure what you're asking. You're asking him to --

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MR. ZOELLER: What I'm asking is, I want to know what cases he was retained in where he rendered a diagnosis solely on the basis of cytology.
MR. NOVAK: All right. So you want him to take the time to research all his past case work to make a determination as to the percentage of the cases that were based on cytology?
MR. ZOELLER: I want the names of the cases where he rendered a diagnosis based solely on cytology.
MR. NOVAK: And you want him to take the time to go back and do that?
MR. ZOELLER: Absolutely.
MR. NOVAK: All right. And are you willing or is your client willing to pay for him to perform those services?
MR. ZOELLER: Yeah, absolutely.
MR. NOVAK: Okay.
MR. ZOELLER: Okay. If the doctor would give me an estimate of how much time it will take, I'd be glad to arrange appropriate payment, but I'd like the names of all such cases.
MR. NOVAK: Are you capable of doing that?

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THE WITNESS: I think it's going to be a massive undertaking. I've seen probably 500 cases of mesothelioma So I'd have to review each and every one of those cases to see which ones were cytology only.
MR. NOVAK: And do you have a general understanding, I mean just general understanding of approximately how much time it might take to do that?
THE WITNESS: Days.
MR. NOVAK: Do you have the time to be able to do that?
THE WITNESS: I really don't.
MR. NOVAK: If you were to have the time to do that, how much time -- based upon your scheduling, how far out into the future would it take to get that done?
THE WITNESS: Probably it would take me somewhere around a month, the next month to get that completed.
MR. NOVAK: Are you able to live with a month?
MR. ZOELLER: I'm able to live with a month. As long as it gives me lead time before the trial, that's fine.

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MR. NOVAK: All right. If you can do that -- I mean why don't you make a determination what you think it would cost for billing, because if he's going to do it, he needs to be able to be prepared to pay for that.

THE WITNESS: I understand.

MR. ZOELLER: That's fine.

Q. (BY MR. ZOELLER) Okay. When you reviewed the slides, what factors, what aspects of the cells that you reviewed led you to the diagnosis of malignant mesothelioma?

A. Well, I think it's summarized in my report. As I said earlier, when I went into the case, I didn't think the slides were going to show any evidence of malignancy.

So I was surprised when I saw the pleural fluid and the fact that malignant cells were present. So I set about the work of determining what types of cells they were.

Just briefly summarizing, clearly they had mesothelial features. This is typical of malignant mesothelial cells that are exfoliated into a pleural fluid specimen.

The cells were round and looked very much like the benign mesothelioma cells around

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them.

But the reason that they appeared malignant was the twofold variation or greater in nuclear size, the indentation of the nuclei, the nuclear chromatin pattern, the presence of enlarged nuclei, the altered nuclear cytoplasmic ratio, and then structurally the fact that the tumor cells were forming acinar and papillary structures, which is quite typical of an epithelioid malignant mesothelioma

Q. Now I take it you'd expect to find mesothelioma cells, correct, in --

A. Yes.

Q. -- cytology?

A. And, in fact, I did find them.

Q. Okay. And those are the cells you're testifying that you found some abnormalities in, correct?

A. No. There was a population of benign mesothelioma cells in the background, and then intermixed with them were the malignant mesothelioma cells which were quite different.

Q. Were there other cells that showed any atypia, in your view?

A. Well, a small number of the benign

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mesothelioma cells showed what we term reactive features. So reactive atypia is a term we use in cytology for those types of cells.

Q. Okay. And you distinguished those atypia how again, Doctor?

A. The reactive cells still retain pretty much the benign architecture of their totally benign counterparts. They don't show the other characteristics of malignancy that I just described.

Q. As a general proposition, Doctor, would you agree that it's often difficult to separate mesotheliomas from other malignancies of the pleuroperitoneum?

A. No, I disagree with that. I think the science has matured substantially in the last 20 years, and we can now diagnose malignant mesothelioma with great precision and differentiate it from other metastatic lesions in pleura.

Q. Okay. Doctor, what I'd like to ask you is, I'd like to know all support you have for the proposition, in the medical literature, textbooks, wherever, for the notion that you can diagnose malignant mesothelioma solely through cytology.

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A. Well, I think there's a large volume of literature. I was not asked to bring that literature today.

But certainly the standard textbooks by Koss, for example, and other world-renowned cytopathologists indicate that the diagnosis of mesothelioma can be readily rendered through cytology.

If you look at multiple editions of the American Journal of Cytopathology over the past ten years, you'll see repeated articles describing the primary diagnosis of malignant mesotheliomas by cytology. So --

Q. I hear you. Can you name --

MR. NOVAK: Excuse me. Hold on just a second.

Are you finished with your answer?

THE WITNESS: Yes.

MR. NOVAK: Okay. Thank you.

Q. (BY MR. ZOELLER) Please name one or more of these articles, if you would.

A. Well, I can't do that because I didn't know I was going to be asked that question; but I can certainly, after this deposition, provide you with five or ten of the key articles that describe

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this science and the ability to make that diagnosis cytologically.
Q. I'll take you up on your offer on that, Doctor. I'd call for you to produce any such studies that you're aware of, or other documents, treatises, et cetera.
A. I'd be glad to.
Q. Okay. Fine.
MR. ZOELLER: At this point, knowing some other people have some questions, I'm going to pass. I'll probably get back to a couple things later according to where they go.
THE WITNESS: Okay.

CROSS-EXAMINATION

BY MR. PETERBIT:
Q. Dr. Pohl, it's a pleasure to finally meet you. My name is John Peterbit. I'm here today on behalf of Crane Company.
Were you provided any medical records from the LBJ General Hospital?
A. If I was, I don't recollect receiving them.
Q. It would have been about 192 pages worth.

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A. I don't think so.
Q. And what you have is in front of you that has been provided to you, or does he --
MR. PETERBIT: Do you have the file?
THE WITNESS: The file is right here (indicating).
Q. (BY MR. PETERBIT) The file is right here.
This is the extent of the medical records you've been provided?
A. No. I did not bring the medical records.
Q. Okay. Do you have an approximation as to how many pages of medical records you reviewed?
A. My recollection is it was about three-quarters of an inch thick.
Q. Have you discussed this case with Dr. Segarra?
A. No, I have not.
Q. Have you been made aware that Dr. Roggli has also reviewed the pathology in this case and issued a report?
A. I have not.
Q. What is your opinion as far as

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Dr. Roggli and his capacity and respectability as a pathologist in the field, the relevant, legal -- I mean the scientific community.
MR. NOVAK: Why don't you start over again --
MR. PETERBIT: Sure.
MR. NOVAK: -- because I'm not sure if you're asking about the legal community or the scientific community right now.
MR. PETERBIT: Strike the whole question.
Q. (BY MR. PETERBIT) What is your professional opinion as to how Dr. Roggli is received in the professional community as a pathologist?
A. I've been asked that question before, and my honest answer is, I don't know what his diagnostic skills are on a day-to-day basis as he works at the Veterans Administration Hospital where his primary work site is.
I do know that Dr. Roggli is not a board certified cytopathologist, and I further know that Dr. Roggli is of the view that you cannot diagnose mesothelioma by cytology.
Q. What about Dr. Sporn, do you know if

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Dr. Sporn is board certified in cytopathology?
A. I don't know him.
Q. What about Dr. Ory, do you know if Dr. Ory is board certified in cytopathology?
A. No, I don't.
Q. Other than yourself, are you aware of any other pathology experts in the asbestos litigation that has a certification in cytopathology?
A. Any other experts?
Q. Yes, that you're familiar with.
A. I wouldn't know one way or another.
Q. Once you've taken a test -- I assume there's a test or something to go through to get a certification in cytopathology, or cytology, whatever --
A. It's the board examination administered by the American Board of Pathology.
Q. Is that a test that has to be retaken with any frequency or regularity?
A. No, there's no recertification for it.
Q. And you took the test for that. What year was that?
A. It's in my CV. I believe it was around 1997.

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(Defendants' Deposition Exhibit No. 5 was marked for identification by the reporter.)

Q. (BY MR. PETERBIT) I'll hand you Dr. Roggli's report in this case. Certainly I want you to have a chance to look at it.

Does it appear, my first question, that the pathologic materials reviewed by Dr. Roggli were the same pathologic materials that you reviewed based on the accession numbers?

A. Yes, they are.

Q. And obviously Dr. Roggli's conclusion in this matter is that this -- well, actually if you could read into the record, what does Dr. Roggli conclude?

A. He says: These slides show atypical epithelial cells, suspicious for malignancy.

He goes on to say: The above cytologic findings are suggestive but not diagnostic for carcinoma of the lung. A diagnosis of mesothelioma cannot be made from this material, and, indeed, mesothelioma should not be diagnosed based on cytologic specimens alone.

Q. He gives two references for that last opinion, that mesothelioma should not be diagnosed -- I don't think he says could but

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should not be diagnosed based on cytologic specimens alone.

The first one appears to be his second edition of his book, treatise on Asbestos-Associated Diseases.

Are you familiar with the second article?

A. Yes.

Q. Okay. Are you familiar enough with that second article cited by Dr. Roggli to state whether or not you believe that that article also would indicate that the diagnosis from cytopathology alone is not sufficient?

A. I don't think that's what that article stated.

Q. And, by the way, that second article, this is actually an article written by -- every single author was a member of the United States Canadian Mesothelioma Panel?

A. That's correct. That's what the article was, was a discussion arising from that panel on the diagnosis of benign versus malignant mesothelial proliferations.

Q. I actually have that with me, and I think I do agree with you at least inasmuch as the

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article -- the authors indicate -- the comments here concern tissue specimens.

We have purposely chosen not to cover the issue of purely cytologic diagnosis because there is considerable disagreement about its accuracy, which, in some reports, is relatively low.

Did I read that correctly?

A. Yes, you did.

Q. Okay. Now when they say that -- they cite to an article for that statement that: In some reports, is relatively low, regarding the accuracy.

And the cite is 15, and that's an article by a group of authors, including Dr. Sugarbaker, which I'm sure you're familiar with.

We have 15 right here (indicating). Are you familiar with this article?

A. I am. Two of the authors are surgeons, and so they're not pathologists and not skilled in the diagnosis of mesothelioma.

Q. And, for the record, cite 15 is an article by lead author Renshaw entitled The Role of Cytologic Evaluation of Pleural Fluid in the

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Diagnosis of Malignant Mesothelioma from the Journal of Chest, 1997, Volume 111, Pages 106 to 109.

Would you consider that article to be reliable, a peer-reviewed journal?

A. Concerning what issue though?

Q. Well, its topic.

A. Well, I think that it's an article that addresses a variety of different issues related to the diagnosis of mesothelioma.

But I believe that any assertion that the diagnosis cannot be rendered on cytologic material is inconsistent with the specialty of cytopathology and the experts worldwide that practice that discipline.

Q. So do you dispute the statement that, in some reports, the accuracy of purely cytologic diagnosis of mesothelioma is relatively low?

A. There are some reports. Those reports are looking at general pathologists, such as Dr. Roggli, rendering a diagnosis of mesothelioma on routine cytology without the skill set to do that.

I think if you look at other publications in which cytopathologists are

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rendering the diagnosis, the accuracy is quite high and is often equivalent to tissue diagnosis.
Q. And that's in the materials that you'll be providing to us?
A. Absolutely.
Q. By the way, did you take any pictures --
A. I did.
Q. -- any photomicrographs?
A. Yes. I have an electronic version of them, and what I would offer is to e-mail them to the court reporter for you to review.
Q. Do you know how many you took? I didn't see a notation of how many.
A. Approximately eight or ten photomicrographs.
Q. Did you perform any additional stains to the slides that you had been provided?
A. No, I did not have a paraffin block available.
Q. I thought you said -- I thought number 2 in your report said you had a paraffin block.
A. That's from the bronchial washings taken during bronchoscopy. It's not from the pleural fluid.
Q. Would you have been able to make slices

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on that block and do preparations and do some staining?
A. I could have, but I would not have found it useful because the differential diagnosis in this case is clearly one of malignant versus benign mesothelial proliferation.
So doing special stains would only be helpful in distinguishing an adenocarcinoma from a mesothelioma and, from a cytologic perspective, this is clearly a mesothelial tumor.
Q. Bronchogenic carcinoma has no mesothelioma origin?
A. That's correct.
Q. Have you seen the certificate of death in this case?
A. I have not.
Q. Do you know if an autopsy was performed?
A. I don't believe it was.
Q. You mentioned earlier that there was -- that there was no other sources of material, but an autopsy could have been done in this case and wasn't, true?
A. I don't know if an autopsy could or couldn't have been done. There's nothing in the records that indicate that the treating physicians

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requested one or saw a need for one.
Q. I'll hand you the certificate of death listing pulmonary -- or respiratory failure and pulmonary carcinoma as the cause of death.
Did I read that correctly?
MR. NOVAK: You incorrectly read it.
THE WITNESS: It says: Respiratory failure and pulmonary cancer.
Q. (BY MR. PETERFEIT) Pulmonary cancer, I apologize.
MR. NOVAK: So what's your question?
Q. (BY MR. PETERFEIT) The doctors -- everyone treating Mr. Gardea up to his passing had essentially written this off as a bronchogenic carcinoma or pulmonary cancer?
A. From the records I had, that's not the case. I found no evidence in the records that anybody has diagnosed him as having lung cancer.
Q. Was that the number one suspicion in the medical records that you reviewed?
A. I certainly think there was some concern about it because of the bilateral hilar masses, but the physicians repeatedly stated that they had been stable for five years, which would be inconsistent with a malignancy, and, therefore,

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they did not feel that he had a malignancy.
MR. PETERFEIT: Can we make that an exhibit as well, please?
THE REPORTER: Sure.
(Defendants' Deposition Exhibit No. 6 was marked for identification by the reporter.)
Q. (BY MR. PETERFEIT) Did you see any reference in the medical records you reviewed of the doctors based on that five-year consistency in the two tumors or apparent tumors, the masses -- let's call them lung masses -- that was more suggestive of silicosis?
A. I think that was discussed, that it was a benign process, quote, like silicosis.
Q. And silicosis can cause death, can it not, advanced?
A. If it produces pulmonary silicosis, yes. I saw no evidence of that in Mr. Gardea.
Q. What would you have been looking for or seen to show you that there was -- that it had this pulmonary aspect?
A. On x-ray, you see what's been termed a reticulonodular pattern on x-ray, and the x-ray reports that I reviewed never mentioned anything of that type.

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Q. Dr. Segarra, in fact, did he not call this a mixed dust pneumoconiosis, including silicosis?
A. Yes.
Q. Dr. Segarra, being board certified in pulmonary medicine and a NIOSH certified B-reader diagnosed silicosis in this case, did he not?
A. Silico-anthracosis is very common. That's found probably in you and I. He called it chronic simple silicosis.
Q. And pulmonary asbestosis?
A. Yes.
Q. To a degree of medical certainty, reasonable medical certainty?
A. Correct.
Q. He also found chronic obstructive pulmonary disease with bullous emphysema, true?
A. Yes.
Q. Both of those are caused not by asbestos but more likely by smoking, true?
A. That's correct.
Q. And Mr. Gardea had a very significant long history of smoking, did he not?
A. Thirty-two years worth, yes.
Q. And if you feel qualified to give this

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opinion, do you believe that that is a significant enough smoking history to produce bullous emphysema, or would you normally expect a much higher pack-year history?
A. No, that's about the level of smoking that would produce emphysema.
Q. When did Mr. Gardea pass away, if you know?
A. He died on 9-12-02.
Q. Did you note that Mr. Gardea had a reported history of asthma in any of the medical records you reviewed?
A. Yes.
Q. Did you note that his father died of silicosis at the age of 56?
A. Yes.
Q. What is your opinion as to whether or not Mr. Gardea may have been exposed to secondary silica dust from any clothing that his father may have brought home?
A. I don't have any evidence one way or another. I just don't know.
Q. Is it possible?
MR. NOVAK: Object to the form of the question. Calling for speculation.

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THE WITNESS: I don't know.
Q. (BY MR. PETERBIT) Have you ever given an opinion in a case of mesothelioma in which it was an alleged household exposure?
A. Yes.
Q. And your opinion, I assume, was that the wives or the children that had developed mesothelioma had obtained their dose from the clothing of their husbands, spouses, boyfriends, brothers, and sisters?
A. That's correct.
Q. So my question is: Taking that to the silica side, is it possible then that if Mr. Gardea's father had enough exposure to kill him at the age of 56 that he could have been bringing home silica dust to his family?
MR. NOVAK: Object to the form of the question. It's calling for speculation, and you're extrapolating one against the other. That's why it's inappropriate.
MR. PETERBIT: It's "objection to form" in Texas, Counsel.
MR. NOVAK: I'm allowing you to -- I'm giving you more specifics so you can try to fix it if you want. Otherwise, you're going at your own

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peril.
THE WITNESS: The literature on household mesothelioma exposure is very rich, but I'm unaware of any literature of any significance concerning household silica exposure. So I just don't think so.
Q. (BY MR. PETERBIT) Would you defer to an industrial hygienist or somebody familiar with the way that dusts may be placed into the air, put into breathing zones, their retention on clothing, and any studies done in that regard?
A. Specific to silica, sure.
Q. Do you know anything about the actual physical features of a silica dust versus an asbestos dust to indicate that it would behave differently in the air or in its deposition upon clothing?
A. Yes.
Q. What is that?
A. Silica tends to be round. It's not retained or aerodynamic in the air, whereas asbestos is more thin and needle-like and, therefore, is aerodynamic. Therefore, asbestos stays in the breathing zone longer than silica.
The other issue is that asbestos readily

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transmigrates from the lung to the pleura, whereas silica does not.
So there's been no study that shows that silica plays any role in mesothelioma whereas clearly asbestos does.
Q. When Dr. Segarra refers to this as chronic simple silicosis and pulmonary asbestosis, in your opinion, the "simple" word, does that modify both silicosis and asbestosis?
A. To be honest with you, I don't know what he means by that term.
MR. NOVAK: If we can find him after this hurricane, we'll all ask him. Last I heard he was clutching to his chimney on his house.
Q. (BY MR. PETERBIT) Did you note anything, any social history or work history, occupational history in the medical records that you reviewed that Mr. Gardea had worked in gold mines for between 10 and 20 years?
A. No.
Q. Would that have been significant to you with regard to any potentialities for dust exposures?
A. Well, certainly in a mining environment, he would have had dust exposures, but I would need

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to know more.
Q. That wasn't reported to you by the Hissey Kientz Law Firm in his work history?
A. That's correct.
Q. It wasn't in Dr. Segarra's report?
A. Correct.
Q. All I have is my computer with me. Since you don't have those medical records, if you don't mind, I'd like to bring this up to you just to review a couple medical records.
A. Sure.
Q. You're probably getting used to this. As technology comes along, I guess lawyers have to adapt too.
MR. NOVAK: Are you going to put an exhibit sticker right there (indicating)?
MR. PETERBIT: I'll be more than glad to --
MR. NOVAK: I want to attach that.
MR. PETERBIT: I'm going to call these out by page numbers, and if you'd like for me to get a copy of these to the court reporter, Mr. Novak, I'd be certainly willing to do that.
MR. NOVAK: Let's just see what your questions are first.

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MR. PETERBIT: Sure.
Q. (BY MR. PETERBIT) Doctor, can you see my screen okay? I'll make sure I've got the brightness all the way up.
A. Yes, I sure can.
Q. Okay. Let's first go up here to the top so you can see the authenticating affidavit from the records custodian.
Well --
MR. NOVAK: Why don't you just ask your questions. I'm not going to worry about authentication right at the moment.
MR. PETERBIT: Well, okay. But I guess it needs to see the CD to review the records.
MR. NOVAK: Somehow I think Weinstein on evidence still hasn't taken this into consideration.
MR. ZOELLER: Safe bet.
Q. (BY MR. PETERBIT) It's not going to cooperate now. Let's just do it again.
Don't give me that.
MR. NOVAK: John, is there a particular question?
MR. PETERBIT: There's a lot of questions. There's a lot of them here. I'm

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sorry. Just bear with me here.
Q. (BY MR. PETERBIT) Okay. Here we go, the records from Lyndon Baines Johnson General Hospital in Houston, Texas.
And my first record I'd like to point out to you -- actually have you seen any indications in the medical records that you reviewed of a prior finding of pneumonia in Mr. Gardea?
A. Yes.
Q. Pneumonia can cause fibrotic changes in the interstitial lung spaces, true?
A. Yes.
Q. I'll go to Page 27 of 192.
MR. NOVAK: Off the record.
(Thereupon, there was a discussion held off the record.)
Q. (BY MR. PETERBIT) Okay. Page 27, this is a discharge summary. Let's see where it's from. Doctors Kamal Gupta and Bavaray Arusha (phonetic). It appears the admission date was January 4th of 2000 and a discharge of January 12th.
Under the heading of Social History, you'll note that it says: He was a construction-

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worker in the United States, and he relates a history of exposure to silicosis after working in the mines in Mexico for 20 years but, during the construction, did not give any history of exposure to asbestos.

Do you see that?

(Mr. Zoeller left the room.)

THE WITNESS: Yes.

Q. (BY MR. PETEREIT) And this was a time that Mr. Gardea had not sought legal counsel. He was merely trying to get better by talking to his doctors, true?

A. I don't know the circumstances, but clearly he reports working in the mines, I assume, when he was very young in Mexico and then was unaware that he had been exposed to asbestos in the construction industry.

Q. It also relates that his father had died of silicosis at the age of 56 under the family history?

A. Yes.

Q. By the way, what is pulmonary edema, and did that in any way come into your differential diagnosis in this case?

A. Pulmonary edema is the accumulation of

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water in the lung, and it did not enter into my diagnostic consideration.

Q. Further down in this report, this is on Page 28, the doctor is -- let's see what he's doing here. This is the Hospital Course heading, Page 3 of 3.

A. Yes.

Q. The report that a CT scan had been read as showing a right hilar mass consistent --

THE REPORTER: A right what mass, I'm sorry?

MR. PETEREIT: Hilar, h-i-l-a-r.

THE REPORTER: Thank you.

MR. NOVAK: You can see it right there (indicating).

Q. (BY MR. PETEREIT) -- mass consistent with bronchogenic carcinoma, bilateral dependent pleural effusion, and, what is that, approximately 1.8 centimeters right lower paratracheal and periaortic lymph nodes.

(Mr. Zoeller entered the room.)

Q. (BY MR. PETEREIT) What does the lymph node reference there?. You have to bring me up to speed on what they're talking about.

A. In the middle part of the chest is

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called the mediastinum. The trachea, which is the main airway that extends back there, it has lymph nodes along it, and so he's referring to the ones in the lower part of the trachea as well as lymph nodes that surround the aorta that runs right near the trachea.

Q. Is it saying that that's where the effusion was found, or is it merely just describing the size of those lymph nodes?

A. No, I think what he's describing is the pleural effusion and then separately lymph nodes that were almost two cm. in size.

Q. What is a dependent pleural effusion as compared to an independent pleural effusion?

A. It means that it flows with gravity. So if somebody is standing, it will be in the lower part of the chest. If they lay down, it will be in the posterior part of the chest.

Q. Thank you.

Let's jump down here to Page 53 of 192. These appear to be dated January 9th of 2000. These would appear to be progress notes from, it says, Team MSS, Roman numeral III, Team D Progress Note.

A. No, that means it's a medical student.

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A year three medical student wrote the progress note.

Q. Would that have been something that a doctor was dictating to him to write down in usual practice, or this is just something from his observation?

A. This is his progress note. Typically they're cosigned by somebody at the bottom after the medical student signs it. I don't know if that was the case here.

(Mr. Shepherd left the room.)

Q. (BY MR. PETEREIT) Okay. We can look down at that.

Can you read where it says: He reports this morning that he was -- I'm sorry: That he, something, worked in the mines before for approximately ten years, from approximately 1947 to 1957, and that he has silicosis, no other complaints?

A. Yes, I see that.

MR. RICE: What page is that?

Q. (BY MR. PETEREIT) You probably read doctor scribble better than I do.

MR. RICE: What page is that?

MR. PETEREIT: That's Page 53 of 192.

MR. NOVAK: They do their best work at 5 a.m.
MR. PETEREIT: He was burning the midnight oil on that one.
Q. (BY MR. PETEREIT) Let's see if there was actually somebody that signed off on this one.
A. Yes, multiple.
Q. Going on to Page 55 of 192, a pulmonary fellow addendum, dated 1-9 of 2000 at, what, 2:10 in the afternoon, reports of a long tobacco history. Suspect COPD. And then it says: Who worked as a cement worker.
Is this the first -- your first indication that he may have been working as a cement worker?
A. Yes.
Q. Is there the potential for exposure to airborne asbestos fibers, from your experience, to cohorts of cement workers?
A. If they were working with a cement-based asbestos product, absolutely.
Q. That's been repeatedly -- one would have no problem finding articles in peer-reviewed medical literature regarding asbestos-exposed cement worker populations?

A. That's correct.
MR. RICE: I'm sorry, could you repeat the page number on that again?
MR. PETEREIT: 55 of 192.
MR. RICE: Thank you.
Q. (BY MR. PETEREIT) Let's go to 61 of 192 now, a continued doctor's note from 1-10 of 2000.
Do you see here: On further consultation -- I don't know what that means.
A. Conversation with Mr. Gardea.
Q. Does that say "he reports"?
A. Uh-huh.
Q. And what does that -- well, he reports --
(Mr. Shepherd entered the room.)
Q. (BY MR. PETEREIT) -- something past occupational history?
A. It almost looks like "intensity" or "industry past occupational history."
MR. NOVAK: "Interesting"?
THE WITNESS: Or "interesting past occupational history."
MR. PETEREIT: Good job. Good job.
Q. (BY MR. PETEREIT) Underneath there are two bolded points, one gold mining for ten years

between 10s and 20s age --
A. Correct.
Q. -- in other words, when he was very young, and then: Cement business -- I have no idea what that says in parentheses -- for 40 years. "Paving" maybe.
MR. NOVAK: It looks like "pouring."
Q. (BY MR. PETEREIT) So we have another reference to a doctor taking an occupational history of a 40-year cement business work history, true?
A. Yes.
Q. And in none of -- still, we have yet to, in any of these occupational histories being taken by his doctors, see any reference to insulation petrochemical refinery work, or asbestos exposure, true?
A. Not in these records, that's correct.
Q. But based on what you've been told and represented about this case, certainly by 2000, he had been reported to have been working as an insulator in foundries and refineries, true?
A. That was reported to me later, after these notes.
Q. Do you know -- well, 1960 to 1978, is

that about when it says that he would have been working in these locations?
A. Yes.
Q. And those were all prior to 2000 --
A. Correct.
Q. -- when he gave his past occupational history to his physicians?
A. Yes.
Q. Do you know the source, by the way, of that block that we were -- the pathologic block, paraffin block, did that come from pleural fluid? Do you know if that was from a needle biopsy?
A. Bronchial washings.
Q. Okay. It was bronchial washings.
That will help me out then here. Do you see that -- there's a reference to his history of silicosis, and he's undergone --
A. Workup by CT, bronchoscopy, and transthoracic needle biopsy about three years ago. At this time, told this was either cancer or silica.
MR. RICE: What page is this?
MR. NOVAK: 61.
MR. PETEREIT: This is 61 still.
Q. (BY MR. PETEREIT) So there appears to

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have been a needle biopsy. That would have actually been a core, needle core biopsy of some actual tissue?
A. That's correct.
Q. That might still exist out there for us to potentially do some pathologic evaluation on?
A. Possibly. The implication from the note is that it was non-diagnostic.
MR. RICE: Is that talking about the '80s biopsy?
MR. PETERBIT: This is in 2000. It says approximately three years ago. So I'm assuming that's the '97 time frame.
MR. RICE: Okay.
Q. (BY MR. PETERBIT) They talk about chest x-rays A&P?
A. Yes, assessment and plan.
Q. Okay. Nodular chest x-rays. Changes bilaterally.
Help me read this.
A. Left upper lobe and right hilum. It seems only minimally changed over the past three years. These findings are most consistent with progressive massive fibrosis with coalescence into nodules seen in silica and/or other inhalational

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dust injuries.
Q. Do you agree with that?
A. Yes.
Q. Now they also talk about something complicating --
A. To complicate matters, he has an increased Co2, which limits --
MR. NOVAK: Infectious?
(Mr. Rice left the room.)
MR. NOVAK: That's a tough one.
Q. (BY MR. PETERBIT) I won't make you try and do it, but it limits something also. Recommend CT from 1-97 to 1-2000.
What's a PPD status?
A. That's a tuberculin skin test.
Q. Thoracentesis to be com- --
A. Completed.
Q. -- completed. No plan for bronchoscopy at this time?
A. Correct.
Q. Going to Page 66 of 192 -- and actually before I -- would you appreciate the ability to review this additional set of medical records, and, in doing so, do you think it would assist in your providing maybe a supplemental or an addendum

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report to your initial report in this case?
A. I certainly can add to the database of knowledge I have at present by reviewing these notes, although it won't change my diagnostic impression in this case.
Q. Here we have a 1-11-2000, under the -- of an abbreviation for what I assume is "respiratory." The signing doctor indicates, Dr. Gupta, I believe --
A. Yes.
Q. -- that they have compared the '97 and 2000 CT scan and radiology attendings, and there is no change in the lung masses over the last three years, making malignancy very unlikely?
A. Correct.
Q. I assume they're talking about the masses?
A. That's correct. And I agree with that.
Q. It says: The bilateral pleural effusions are now but are likely transudative.
What does that mean, versus exudative?
A. When the pleural surface is irritated, fluid will weep across almost as if you were scraping your skin; you get that weeping of fluid off of the skin. Well, that happened inside.

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That's a transudate.
(Mr. Rice entered the room.)
THE WITNESS: An exudate is actually a thicker, more proteinaceous fluid that accumulates as a consequence of cells migrating into the pleural space.
Q. (BY MR. PETERBIT) With a pleural effusion in the case of malignant mesothelioma, are they traditionally transudative or exudative?
A. They can be either. It depends on the mesothelioma and the extent. But, for the record, I don't believe his effusions in 2000 had anything to do with a mesothelioma.
Q. You believe the mesothelioma was -- actually, do you have an opinion as to when that would have -- when the onset of that disease was?
A. Two years later, in 2002.
Q. Let's go to Page 90 of 192. This is a December 18th, '97, letter to Dr. Denson from a Dr. Julio Shahar, who reported to be, on his letterhead, a Diplomate, American Board of Internal and Pulmonary Medicine. It appears to be a pulmonary consult.
And, again, he reports that there were x-rays and CAT scans done in '85 to '87 time frame

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which suggested lung cancer, but they're similar to the current pictures in '97; that there was biopsies done apparently in the '85 to '87 time frame, that they were negative for malignancy. Similarly a bronchoscopy with biopsy in '97 were again negative for malignancy.
Is that what he reports?
A. Yes.
Q. His impression then follows that: Although malignancy suggested, the fact lung changes -- although malignancy was suggested, the fact that lung changes are persistently without changes, it looks more for chronic scarring and inflammatory changes.
Agree or disagree?
A. I would agree with that.
Q. It also indicates the patient is refusing the biopsy procedures, true?
A. Yes.
Q. Do you know what he means when he says: Clinical picture of bronchitis?
A. The typical clinical picture is somebody with a chronic cough that produces sputum.
Q. I'm sorry. Thank you very much for bearing with me on that one.

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A. No problem.
MR. PETERETT: Do you want to take a break? We've been going --
MR. NOVAK: Let's take an eye break. How about ten minutes?
MR. PETERETT: That's fine.
(A recess was taken at 1:45 p.m.)
(Mr. Zoeller left the room.)
(Back on the record at 2:03 p.m.)
Q. (BY MR. PETERETT) Dr. Pohl, we're back on the record. Do you, by any chance -- from the cytologic material you reviewed, were you able to give a more specific histologic diagnosis as to what type of mesothelioma this would be?
A. By definition, the cells that were present are the type that would be derived from a tubulocpithelial variant of mesothelioma.
Q. And you stated earlier you believe the diagnosis -- or that the onset of mesothelioma as best you can stage it or place it, is probably in the 2002 time frame?
A. Yes.
Q. Within six months of his passing, I believe?
A. That's when it first clinically

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manifested itself. It probably arose a year and a half before that.
Q. Would you agree with me that epithelial mesotheliomas typically obliterate the pleural space and encase the lung?
A. In late stages, that's absolutely correct.
Q. Is it your opinion then that Mr. Gardea's mesothelioma was not in the late stages?
A. Certainly there wasn't evidence of that kind of encasement and caking, and that happens quite often, that the mesothelioma kills the patient for other reasons long before it gets to that late stage.
Q. In fact, it's typically the course with mesothelioma patients that some other process, not the actual mesothelioma which kills them, true?
A. I think that's partially true. Even to this day, it's hard to determine what in a malignancy actually kills a person.
It's usually its complications: respiratory failure, pneumonia, invasion of blood vessels, those types of things.
Q. Would you agree that there are a wide

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variety of histologic patterns in mesothelioma?
A. Yes, there are.
Q. And several of those histologic patterns can and do resemble several other types of malignant neoplasms?
A. Yes.
Q. The materials that you were provided, the pathologic materials, were they of sufficient amount and quality to be able to perform ultrastructural studies?
A. No. Potentially they could be done by doing a removal of a small amount of tissue from the paraffin block, but I didn't have access to that.
(Mr. Zoeller entered the room.)
Q. (BY MR. PETERETT) And you've already indicated that because this was merely formal and fixed slides there would have been no way to perform any immunohistochemistry?
A. Well, they weren't formal and fixed -- well, let me rephrase that. The cell block would have been formal and fixed. The smears would have been alcohol fixed.
Q. I guess there was no way we could have -- that anything could have been taken, any

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pathologic material could have been taken from the slides and further immunohistochemical stains performed?
A. That's untrue. The slides themselves could be destained and immunohistochemical stains performed, but there would have to be agreement on all sides to the destruction of that material.
Q. So that is a possibility that remains in this case?
A. Yes.
Q. Now I noted that you had indicated receipt -- well, actually you say four H&E stained cell block preparations and two smears. So a total of six slides?
A. Yes.
Q. And did you take photomicrographs of all six slides?
A. I did.
Q. If we're able to come to an agreement in this case on all sides and destroy what tissue exists on those slides to perform immunohistochemical stains, would that tissue also be sufficient for ultrastructural studies?
A. I think there would be too much artifact, but before you go ahead and destroy

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these, I would look for the cell block first.
Q. Okay.
A. It must exist somewhere.
Q. You believe there would have been a cell block from the pleural fluid that would have made it to a beam or --
A. That's correct. That's what those H&E stained slides were prepared from, and so there must be a paraffin block somewhere.
Q. So start with the paraffin block first. If not, we possibly could dissolve, I guess, the slides and get material for immunohistochemical stains?
A. That's correct.
Q. That word gets me all the time.
Is the material that -- from the slides, could you -- are you able to observe under the microscope, at the magnification you're using, DNA or chromosomal changes?
A. No.
Q. Would that require some type of cytogenic testing?
A. Cytogenetic testing, that's correct. Typically that's not done on processed tissue though. If's done on fresh tissue.

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Q. So we wouldn't able to look at any type of DNA analysis here to see if -- do what is referred to in pathology as a ploidy analysis?
A. That could be done from the paraffin block, yes.
Q. Would you agree or disagree that a DNA ploidy analysis can be used to distinguish a mesothelioma from other pulmonary carcinomas?
A. I would disagree. It can be used to determine a malignant condition from a benign condition in a subset of cases.
Q. Are you familiar with the studies or do you agree that mesotheliomas are typically DNA euploid, whereas most adenocarcinomas are aneuploid?
A. Correct.
Q. You're familiar with Dr. Samuel Hammar?
A. Yes, I am.
Q. Dr. Hammar is another well-respected pulmonary pathologist which coincidentally also testifies typically for plaintiffs in asbestos litigation?
A. That's my understanding.
Q. I have in my hand a textbook by Mr. Hammar and Dial --

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MR. NOVAK: Dr. Hammar, you mean?
Q. (BY MR. PETERBIT) -- Dr. Hammar and Dr. Colby and Dial -- Dail -- is it Dail?
A. Dail.
Q. -- entitled Pulmonary Pathology Tumors.
Do you have this treatise in your offices?
A. No.
Q. Have you ever referenced it or reviewed portions of it?
A. Yes.
Q. Do you find it to be authoritative?
A. Portions of it, yes.
Q. On Page 496 of this treatise, specifically in the chapter written by Dr. Hammar on pleural diseases, he states that: Of concern to pathologists and clinicians is the accurate identification of malignant cells in pleural fluid and, in some instances, differentiation of reactive mesothelioma cells from malignant mesothelioma cells or other malignant cells. Our solution to this problem is to study abnormal cells in pleural fluid by electron microscopy and immunohistochemistry.
Have you ever seen that before?

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I'll show it to you.
A. Yes, I'm very familiar with that literature and the attempt to differentiate benign from malignant conditions by a variety of different techniques.
Q. Would that be a good thing to do in this case if we're able to, is follow up with immunohistochemistry and ultrastructural studies?
A. My own opinion is, in this case, they would not be helpful.
Q. And what is the basis of that opinion?
A. The fact that I think the cells that are present, from a cytopathologist's view, are clearly malignant, and their histogenesis is clearly from a mesothelioma cell. Therefore, those studies would not add anything to this case.
Q. If there were the ability and we are able to, in this case, do an immunohistochemistry, is there a particular battery of stains that you would find particularly useful or more of assistance with cytologic fluid specimens as compared to tissue specimens?
A. Well, I think it's important to understand that the reason you'd undertake those

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studies is to differentiate an adenocarcinoma from a mesothelioma.
So if we all agree that malignant cells are present, those stains would be helpful in delineating what type of cancer is present in Mr. Gardea.
Q. You say, if we all agree they're malignant.
Staining would be of no use in differentiating malignant from nonmalignant spots?
A. That's correct, because the cells are a mixture of mesothelioma cells, reactive mesothelial cells, and what I believe are malignant mesothelioma cells, and they would all stain the same way with the typical battery used for adenocarcinoma versus mesothelioma
Q. Based on any of the stains, the H&E stains were done, would that -- what is the purpose of doing an H&E stain?
A. That's the standard stain that's used in pathology. It's a differential stain that stains both proteins and nucleic acids within cells, so it allows a pathologist and cytopathologist to discern the fine cellular detail of a cell to

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determine the disease process.
Q. How would we be able to detect the presence of hyaluronic acid in any of the pathology materials we have for Mr. Gardea?
A. That's typically done with an alcian blue stain.
Q. We could potentially do that from maybe the block or the slides in this case?
A. That's correct.
Q. And if we did that, would you agree that that would be of assistance in differentiating potential malignant mesothelioma from a metastatic malignant neoplasm?
A. I would not. That stain was used in an earlier era, but it's proved to be not very consistent or reliable. So I would not rely on it.
Q. Are you familiar with Dr. Henderson's scheme of investigation of suspected mesotheliomas?
A. I believe I've seen it. I think it's outdated. He published that some time ago.
Q. It was published in '92.
A. Right.
Q. I want to show it to you. It's listed

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as Figure 5-121 on Page 504 of Dr. Hammar's book.
With respect to effusions being present, there's a little sub- -- the graph goes on to the effusion.
In the level-one investigation, it references what you have performed, cytopathology.
It then references doing a mucin stain, a CEA stain, an EMA stain, electromicroscopy -- what does that say?
A. And like the hyaluronic acid stain, immunohistochemistry, and CEA.
Q. And then we go on to an evaluation, and then we have no diagnosis or a definitive diagnosis?
A. Correct.
Q. Of the four or five things listed here on Dr. Henderson's chart, you believe that cytopathology alone is sufficient?
A. I do. Again, this chart is almost 14 years old. There have been great advances since that point in time, and cytopathology at that point in time was certainly far less precise than it is today.
Q. Not being an expert on cytopathology myself, is there anything about the histologic

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features you've reported as seeing on the microscope that would be -- could and would be seen in other cancers?
A. Certainly the variation in nuclear size, the nuclear cytoplasmic ratio changes.
The chromatin pattern and nucleoli can be seen in other cancers, but it's also the architecture of the cells that lead you to their histogenesis.
So while a zebra and an elephant may both have four legs, they are obviously distinctly different creatures.
Q. Did you actually review any x-ray or CT films?
A. No.
Q. You've reviewed reports of such films and CTs?
A. That's correct.
Q. Do you have any opinion one way or the other as to the diagnosis by Dr. Segarra of asbestosis and silicosis in this case?
A. Only insofar as he's the expert. I would defer to his opinion on that issue.
Q. Are you familiar with the ILO or the NIOSH B-read form?

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A. Yes, I am.
Q. Do you have Dr. Segarra's report in front if you?
A. I believe it was here.
I have it.
Q. Okay. First of all, the film quality reported by Dr. Segarra of the chest x-ray is a grade three.
Do you see that?
A. Yes.
Q. Would you agree that a grade three film, the definition of that is poor, with some technical defect, and still acceptable for purposes of classification?
A. That's correct.
MR. NOVAK: Hold on just a second.
I think I've just heard the third beep, which means, if my math is correct, there's no one else left on the phone.
If there is someone on the phone, would they let us know? Otherwise, we're going to hang up.
MR. STEELE: I'm on the phone.
MR. NOVAK: Thank you.
MS. BERNAL: I am too. This is Kathryn

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Bernal.
Q. (BY MR. PETERFEIT) On the actual B-read form, Section 4B, Other Symbols, there are several symbols listed down there that the physician can check or cross through.
A. Yes.
Q. And, in this case, Dr. Segarra has crossed through the BU, which is bulla, true?
A. Correct.
Q. The CA, which is cancer of lung or pleura, true?
A. Yes.
Q. And EF, which is effusion?
A. Correct.
Q. Given that Dr. Segarra notes effusions or opacities in all three lung zones on both sides, would you agree that we have a situation here of advanced, progressive fibrotic changes?
A. Yes.
Q. And this would be indicative of late stage or very -- late stage or very serious asbestosis or silicosis?
A. Yes.
Q. Because those typically begin in the lower zones and work their way up; isn't that

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true?
A. That's correct.
Q. Do you entertain any possibility that Mr. Gardea's asbestosis and silicosis may have killed him?
A. No.
Q. In your opinion, that's not even a possibility, in the realm of possibilities?
A. I think it's inconsistent with his clinical history. He'd been evaluated for these changes which remain consistently stable over the years, and they did not produce his death.
It was only upon developing his malignant pleural effusion and mesothelioma that he actually died.
Q. What is your opinion as to whether silica is a direct acting carcinogen or a cocarcinogen?
A. Well, I think that that's been documented in the medical literature for a number of years, but its ability to cause lung cancer specifically is far less than other carcinogens.
Q. The IARC classifies silica as a 2A, which is probably carcinogenic in humans.
Is that your understanding?

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A. Yes.
Q. Have you seen any reference in the CT or x-ray reports that you have reviewed that there was any nodular studding in the pleural surface that is indicative of a pleural mesothelioma?
A. No.
Q. Would you agree that solitary masses is not the typical clinical presentation of a mesothelioma?
A. It can be, but that's less common. Usually you don't see anything.
Q. And, again, so we're clear, you did not see any evidence of obliteration of the pleural space in any of the records, notations, or radiologic reports?
A. By a tumor growth, no, I did not. The pleural space was filled with fluid.
Q. Are you able to tell from the pathology material itself whether there was invasion into other tissues?
A. No.
Q. You would agree that that could be seen if we had some type of a tissue specimen to observe?
A. Certainly.

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Q. An invasion into other spaces and tissues is highly diagnostic for malignant mesothelioma, true?
A. Correct. That's one way you diagnose it.
Q. Would you agree that cigarette smoking individuals have a higher incidence of asbestosis?
A. No.
Q. Do you agree that smoking, at least theoretically, increases the fiber dose retention and rate of penetration?
A. I know that's been proposed, but it's never been shown scientifically that that occurs.
Q. Does it theoretically make sense based on what smoking does to the body's clearance mechanisms?
A. Biologically, it makes sense, but, again, studies of these workers have not shown any difference between the smokers and nonsmokers.
Q. Do you know if the United States Canadian Mesothelioma Panel have written with regard specifically to the use of cytopathology for the diagnosis of mesothelioma?
A. I don't know. I have not seen anything from them.

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Q. Of any of the individuals on the panel which we've referenced this 2000 article from the American Journal of Surgical Pathology earlier, do you know if any of them, that being Dr. Churg, Dr. Colby, Dr. Cagle, Dr. Corson, Dr. Gibbs, Dr. Gilks, Dr. Grimes, Dr. Hammar, Dr. Roggli, or Dr. Travis, have a specialty concentration in cytopathology?
A. I don't believe any of them do.
Q. Do you have any familiarity with how prevalent that specialty is as far as people obtaining certification?
A. It's quite prevalent. In fact, in the last five years, there's been an active move by pathology groups nationwide to hire a cytopathologist to work within their groups. I believe in pathology, it is the most common subspecialty.
Q. Do you believe that cytopathology is far enough along that it has replaced actual tissue specimens as the gold standard for diagnosis?
A. In many areas. For example, I evaluate thyroid aspirates on a regular basis for the Cleveland Clinic, and that is widely acknowledged as a diagnostic entity that prevents people from

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having thyroidectomies unnecessarily.
Q. Would you agree that observations regarding the gross distribution and morphologic features of a tumor or tumors is very -- are very important elements in the diagnosis of malignant mesothelioma?
A. In certain difficult cases, that's true, but certainly most cases are straightforward and do not require that kind of investigation.
Q. Are they important elements though? That's my question.
A. They can be.
Q. Can be.
And you would agree that parenchymal pulmonary masses are uncommon in malignant mesotheliomas except maybe in late-stage disease?
A. That's true.
Q. Would you agree that dominant pulmonary masses should raise suspicions regarding the diagnosis of mesothelioma?
A. Not necessarily. Certainly every case is different. In this case, it's clear that those masses are not malignant, and so they have absolutely nothing to do with this man's underlying malignancy.

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Q. What did you do to exclude a metastatic tumor diagnosis in this case?
A. I don't think there's any evidence in this individual clinically or cytologically of a primary tumor that would have spread to the pleura.
And the appearance of the tumor in that pleural fluid is quite different from what you would expect in a metastatic carcinoma from some other site.
Q. What would you expect to find cytologically in a metastatic carcinoma?
A. They tend to be quite pleomorphic. So the cells have a striking variability in appearance. That's probably the key feature.
And then just the cytologic architecture of the cells, they tend to be cells that don't have the perfectly round and regular architecture of mesothelial cells but rather they show considerable variation in the cytoplasmic and nuclear features.
Q. When you're referring to perfectly round, are you talking about the cytoplasmic borders or the actual nuclear contour?
A. Both. Typically the mesothelial cells,

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the cytoplasm has a nice, round, regular contour, and the nuclei are oriented within the center of the cytoplasm, which is quite different than metastatic tumors where the nuclei are placed in multiple different locations within the cytoplasm, and there's a lot of variation in cytoplasmic and nuclear architecture.
Q. In the material you observed under the microscope, did you note any necrosis present in the pathology?
A. No, I did.
Q. Did you note or were you able to note mitoses or mitotic changes?
A. Yes, there were mitoses in some of the cells.
Q. How would you -- frequent mitoses? Rare? How would you describe them?
A. I would say an occasional cell showed it.
Q. So you would say an occasional mitoses?
A. Yes.
Q. In your opinion, would you expect -- is that what you would expect to find as far as the rate of mitotic changes in a mesothelioma?

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A. You should expect to see some mitoses, but it depends on the growth rate of the tumor, and so I don't rely entirely on mitotic activity as an index of malignancy.
Q. Let me ask you this question: You would agree that it has been reported that malignant neoplasms, including mesothelioma can become dormant for a number of years; would you agree with that?
A. I've never heard that.
Q. You've never heard that?
A. No.
Q. There's no way in your -- based on your understanding of pathology, there's no way that this could have been a mesothelioma or an adenocarcinoma back in the '85, '86 time frame that laid dormant until later years?
A. No.
(Mr. Shepherd left the room.)
Q. (BY MR. PETERBIT) What is different about the cytology you reviewed and saw that, in your mind, enables you to rule out a reactive mesothelioma change?
A. I think we've been through this before. Even in an exuberant, reactive condition, you'll

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never see more than a twofold variation in nuclear size. That's one of the key features.
Typically in a reactive process, not only do the nuclei get larger but the cytoplasm enlarges proportionately with it, whereas in a malignant process, the cytoplasm stays the same in volume. The nuclei get bigger, causing what we call an increased N/C ratio.
And then there's the chromatin pattern in the nuclei. Remember that when a cell becomes malignant, the DNA is irregularly distributed within the chromatin.
So it produces a darker and more clumped appearing chromatin pattern, whereas in reactive cells, the chromatin, because it is normal, remains finely distributed throughout the nuclei.
So these are some of the cytologic features that we look for.
Q. Dr. Roggli, in his second edition of his treatise, Asbestos-Associated Diseases -- or Pathology of Asbestos-Associated Diseases, makes a statement on Page 115 of Chapter 5 on mesothelioma and I should note that this is authored by Drs. Sporn and Roggli -- they state that: Although now commonplace usage -- although with

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the now commonplace usage of immunocytochemistry in the evaluation of cytologic material, the pathologist may become highly suspicious of the diagnosis of mesothelioma. It remains our practice and that of others to treat exfoliative and aspiration biopsy specimens as screening tests and to rely on tissue test specimens to secure the diagnosis.

Agree or disagree?

A. I know they state that, but that's their view of the world. It certainly is inconsistent with those who specialize in cytopathology and practice it on a day-to-day basis.

Q. I note that one of the cites to his statement that others practice that as well is -- I'll show you.

At the end of his little string cite where he says that it is the practice of others to -- do you see where he cites to footnote or endnote 2, 15, and then 139 through 152?

A. Yes.

(Mr. Shepherd entered the room.)

Q. (BY MR. PETE) If you go to the endnote section, I note that 15 is by Dr. Hammar.

MR. NOVAK: So what's your question?

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Q. (BY MR. PETEREIT) Do you see that chapter? It's a chapter on pleural diseases from Pulmonary Pathology, second edition?

A. From 1994, that's an ancient textbook. Of course Dr. Hammar in that point in time would have, as I would have, would have recommended tissue biopsy.

Q. Have you spoken with Dr. Hammar -- I'm sorry, did I cut you off?

A. No.

Q. Have you spoken with Dr. Hammar recently to update what you believe his opinions are regarding the usage of cytopathology for diagnostic purposes?

A. I have not spoken to him directly, but I've certainly read some of his deposition transcripts, and I believe, in 2005, his opinion would be quite different.

I think that he would say that there are cytologic specimens in which a diagnosis of mesothelioma can be rendered to a hundred percent degree of certainty.

Q. Do you know if Dr. Hammar has been consulted in this case?

A. I don't know.

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Q. Do you have any specific case names that come to the top of your mind as to case depositions you've reviewed of Dr. Hammar in which he has given you an indication that would be his position today?

A. I don't remember them offhand, but it was a case from Goldberg, Peraky that I read his deposition in.

Q. Goldberg, Peraky being a law firm?

A. Yes.

Q. Do you know what state they're out of?

MR. NOVAK: Pittsburgh, Pennsylvania.

MR. PETEREIT: Thank you, Mr. Novak.

Q. (BY MR. PETEREIT) Do you know what year that deposition was given?

A. It was last year, 2004.

Q. Did you, by any chance, attend the International Academy of Pathologists conference in Amsterdam last year?

A. No.

Q. Have you reviewed any of the materials that came out of that conference?

A. No.

Q. Do you know if cytopathology and the diagnosis of mesothelioma was a topic of

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discussion?

A. I don't know.

Q. How often do you attend or are you required to attend continuing legal education type courses?

A. Continuously.

MR. NOVAK: Legal?

Q. (BY MR. PETEREIT) I'm sorry, continuing professional. I'm so used to doing CLEs. I apologize.

How frequently are you required or do you, as just a matter of course, attend professional learning and continuing learning education courses?

(Mr. Rice left the room.)

THE WITNESS: Well, it depends on the licensure requirements of the state, but most states require, during biannual reappointment, at least 80 or 100 continuing medical education hours.

(Mr. Rice entered the room.)

THE WITNESS: So I, for a comparison, usually rack up about 250 to 300 during a two-year period. So I'm very active in pursuing continuing education.

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Q. (BY MR. PETERBIT) What states are you currently licensed in to practice medicine?
A. Maine --
Mr. NOVAK: Asked and answered.
MR. PETERBIT: I'm sorry.
THE WITNESS: Maine, Florida, and Massachusetts.
Q. (BY MR. PETERBIT) Have you ever been licensed in Texas?
A. No.
Q. Do you still practice primarily out of Maine?
A. No, Florida.
Q. Florida now.
It's probably on your CV, and if it is, just tell me. How many articles have you specific written regarding the use of cytopathologic materials for the diagnosis of malignant mesothelioma
A. None.
Q. Have you authored any articles with any potential relevance to the use of cytopathology in the diagnosis of tumors?
A. No. Others have done that, but not me.

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Q. Do you -- I'll let you produce what you're going to produce instead of asking you what the most recent one that you're familiar with was.
What is blebbing?
A. It's when the airspaces in the lung break down, forming larger airspaces that grossly look like bubbles beneath the pleura, and that's a bleb.
Q. Would you agree or disagree that there's a greater risk in an ex-smoker than of a nonsmoker of being diagnosed with lung cancer even 20-plus years after quitting smoking?
A. Yes, there is persistent risk even 20 years out.
Q. Would you agree or disagree that the interpretation of pleural fluid cytology specimens can be hindered by regional inflammation or infection which may lead to the false-positive diagnosis of malignancy?
A. I would disagree. In the hands of a competent cytopathologist, they would be aware of those changes.
Q. Would you agree that between 40 and 80 percent of pleural effusions that are malignant

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are most commonly due to metastatic adenocarcinomas of the lung or breast?
A. Yes.
Q. Number three, I believe, would be lymphomas as far as percentage-wise?
A. I'm not -- I don't believe. In my experience, lymphomas are quite rare in the pleural space.
Q. No, I meant as far as when you see malignant pleural effusions, would you agree that, where you see them, typically the top two would be metastatic adenocarcinoma; number two would be breast cancer; number three would be probably lymphomas, or do you see malignant --
A. No, I think number three would be upper gastrointestinal malignancies, and number four would be gynecologic malignancies in women.
Q. Is the cytology we looked at here what you would call an exfoliative cytology?
A. Yes, that's exactly what it is.
Q. In Dr. Roggli's book -- again, this is Chapter 9 entitled Cytopathology of Asbestos-Associated Diseases, by Dr. Spom -- under the heading Benign Effusions, Dr. Spom writes that: Benign effusions may result in the

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exfoliation of mesothelioma cells with striking cytologic atypia, including large size and nuclear abnormalities such as multinucleation. Misinterpretation of reactive changes in mesothelium as malignant mesothelioma or carcinoma constitutes a major pitfall in exfoliative cytology.
Do you agree or disagree with that statement?
A. I agree. General pathologists not trained in cytopathology may incorrectly render diagnoses of malignancy, and I've seen that on multiple occasions.
That's why the cytologic diagnosis of mesothelioma should be reserved to cytopathologists who are skilled in making that diagnosis.
Q. I assume you disagree with his statement on Page 239 that: On cytologic grounds alone, it may be difficult or impossible to distinguish metastatic adenocarcinoma from primary malignancies of the serosal membranes, i.e., malignant mesothelioma.
A. In certain cases, that's absolutely correct.

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Q. Did the cytology you reviewed have a three-dimensional feature to the cells?
A. Parts of it, in the papillary clusters and the acinar clusters, but most of it was a thin section, so it wasn't three-dimensional.
Q. Would you characterize the cells as being tight, a tight pattern, groupings together in the population you described?
A. Well, it's a mixture. Some of them were separated from each other, and others were formed into papillary and acinar structures.
Q. Did you observe a high nuclear to cytoplasmic ratio?
A. Yes, I did.
Q. Did you note nuclear membrane irregularities?
A. I did.
Q. Pleomorphism?
A. Yes.
Q. Hyperchromasia?
A. Yes.
Q. Prominent nucleoli?
A. In some of the cells, yes.
Q. I guess we wouldn't be able to — without doing stains, you wouldn't be able to talk

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about the demonstration of mucin in any of the cells, right?
A. Well, certainly the cytoplasm didn't show any vacuoles, so I wouldn't expect to find mucin.
Q. Would you agree that the demonstration of mucin in cells is strongly suggestive of malignancy?
A. In a pleural effusion, yes.
Q. We just went through some of the pathologic features that you found in this pathology, including the high nuclear to cytoplasmic ratios, nuclear membrane irregularities, pleomorphism, hyperchromasia, and prominent nucleoli.
Dr. Sporn, on Page 238, going on to Page 239, gives every single one of those and describes them as being characteristic of carcinomatous pleural effusions?
A. Which is another term for malignant. They can be — carcinoma is a malignancy. Mesothelioma is a carcinoma.
Q. Thank you.
Would you agree that no cytologic feature is diagnostic of malignant mesotheliomaNo

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single cytologic feature, that's correct. You have to collect the data, the view of the cells to come up with that diagnosis.
Q. Would you agree that papillary aggregates within the cytologic specimen can be seen in both the pleural mesothelioma and also adenocarcinoma?
A. Yes.
Q. In your opinion, can papillary aggregates be found in benign effusions?
A. On occasion, you can see what's called papillary mesothelial hyperplasia, so then cytologic appearance of the cells becomes very important.
Q. Would you describe the population of exfoliated cells in the cytology reviewed as being uniform?
A. No.
Q. Agree or disagree that a uniform population of exfoliated cells favors mesothelioma over adenocarcinoma?
A. I disagree. Usually when they're —
(Dial tone.)
MR. NOVAK: Just turn it off.
(A recess was taken at 2:49 p.m.)

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(Mr. Rice left the room.)
(Mr. Zoeller left the room.)
(Back on the record at 2:50 p.m.)
MR. PETERBIT: We're back. Is everybody still here?
MR. LaBOON: Yes.
MR. PETERBIT: Sorry about that.
MR. LaBOON: Okay. Thanks.
MR. PETERBIT: We're going to take a, I think, two-minute break.
MR. SHEPHERD: We'll just gather the guys.
(Mr. Shepherd left the room.)
MR. NOVAK: Just keep going. They walked out on their own. If they want to walk out in the middle of the dep, that's their business.
THE WITNESS: I need to finish my answer.
Q. (BY MR. PETERBIT) Yes. Please do.
A. The answer was no, and the uniform population of cells characterizes a benign process, not a mesothelioma or a malignant metastatic tumor.
(Mr. Shepherd entered the room.)
Q. (BY MR. PETERBIT) So when Dr. Sporn,

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on Page 240, says: A uniform population of exfoliated cells favors mesothelioma over adenocarcinoma, but this is also a feature of benign effusions, you partially agree, partially disagree?
A. Well, I think we're talking about two different things. One is that, in mesothelioma and I had talked about this earlier -- the malignant population of cells appears uniform.
They have a cytologic architecture which is less anaplastic and pleomorphic than a metastatic tumor.
But the other issue is that, for benign conditions, the cells are small, resemble their cell of origin, they're uniform --
(Mr. Zoeller entered the room.)
THE WITNESS: -- and you can rule out a malignancy based upon those features.
Q. (BY MR. PETERBIT) Did you find peripheral cytoplasmic blebbing in the cytology you reviewed?
A. I don't believe I saw that, no.
Q. Would you agree that that would be suggestive of mesothelioma?
A. It can be seen in a small population of

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cases, but, in my experience, it's not commonly present.
Q. What is cell-to-cell apposition?
A. It's one cell touching another cell.
Q. Did you see that in the cytology in this matter?
A. In some areas, yes.
Q. Was there the formation of intercellular windows in the pathology that you saw?
A. I don't know what he means by that term.
Q. Okay. What about cell cannibalism, do you understand what he means by that?
A. Yes. On occasion, a malignant cell will consume another malignant cell. I believe there was some cannibalism of red cells, but I didn't see one malignant cell cannibalizing another.
Q. Would you agree with Dr. Sporn that cell-to-cell apposition and cell cannibalism are other findings suggestive of mesothelioma?
A. Yes.
Q. Agree or disagree: The diagnosis of mesothelioma based solely on examination of cytologic specimens even with ancillary studies remains fraught with hazards?
A. In some cases, it can be, certainly not

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the majority of cases.
Q. I believe you testified earlier -- if you didn't, tell me -- that you would certainly have advocated in this case, if possible, the obtaining of a needle biopsy or some type of a tissue specimen?
A. Well, in a perfect world, a tissue diagnosis is always preferred by pathologists in general practice over cytology, but when tissue is not available, then you use the best material you have available to render a diagnosis.
Q. Dr. Sporn says that: The confirmation of positive cytologic findings with surgical biopsy is advocated by other centers with extensive experience in the care of mesothelioma patients.
(Mr. Rice entered the room.)
Q. (BY MR. PETERBIT) It cites to endnote number 45, and I believe that's the Sugarbaker article again.
Would you agree with that statement?
A. Well, I think it's inconsistent with my own experience. One of the cases which I will be providing is a diagnosis of malignant mesothelioma was rendered cytologically. It was confirmed at

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the hospital in Boston that Dr. Sugarbaker works on. And, based upon that diagnosis, he took the patient to surgery and did an extrapleural pneumonectomy.
Q. Do you have any familiarity or recollection as to the radiographic presentation of the tumors in that case?
A. It was very similar to this one, just a unilateral pleural effusion that was drained.
Q. No, but I mean, do you know, was there the typical nodular studding and encasement of a lung or obliteration into the pleural case?
A. No. In fact, that was absent, and that's why they undertook the extrapleural pneumonectomy because it was an early stage mesothelioma.
Q. Certainly you would agree or advocate that it's necessary, especially in the medical/legal context, to have all possible diagnostic tests performed on tissue, on the tumor tissue, in order to ensure diagnostic certainty?
A. Again, I don't believe that's necessary in all cases. In many of the cases, the diagnosis is straightforward. It doesn't require any special stains.

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And, in fact, from large centers like M.D. Anderson and other cancer centers, those straightforward cases never have any immunohistochemistry done on them.
Q. Have you ever done any work for the Motley firm, Motley, Rice?
A. No.
Q. Are you familiar with the huge lung treatise, Pathology of the Lung, by Thurlbeck and Chang?
A. I have a copy of it.
Q. It's a pretty heavy book; that's why I only brought some selected pages today.
Did you, by any chance -- actually I believe you found what you would call sharp cytoplasmic boundaries in this cytology.
A. Yes, I did.
Q. You found voluptuous nuclei, otherwise referred to as irregular nuclear contours?
A. That's a funny term, but, yes, I did see that.
Q. I used their word. They put it in parentheses, "voluptous nuclei."
A. Yes.
Q. I note, in Chapter 32 on Diagnostic

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Cytology by Greenberg and Amy, there is a discussion about different lung cancers, adenocarcinomas, and general cytologic features that they would find for those type of tumors.
I note that on Page 137 here, when discussing features of adenocarcinomas, they say that acinar and papillary adenocarcinomas are cytologically similar?
A. Yes.
Q. And when talking about the general features of an adenocarcinoma, they talk about the cell arrangements being in cell balls, acinar groups, branching or papillary structures, correct?
A. Correct.
Q. Which is what you have described as being diagnostic of mesothelioma in this case, or at least one that you --
A. One feature contributing to that diagnosis, yes.
Q. They also describe that the nuclei are round to ovoid, which would encompass your findings in this case, true?
A. Yes.
Q. They also describe irregular, smooth

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nuclear contours, voluptous nuclei. You've described that in the case of this cytopathology, true?
A. Yes.
Q. They also describe prominent nucleoli, which you found in this cytopathology, true?
A. No.
Q. You did not?
A. No.
Q. I thought your report did.
A. I think what I described was inconspicuous nucleoli, and that's a major differentiating point between an adenocarcinoma which has very large nucleoli and mesothelioma which has very small nucleoli.
Q. Let's find your report.
Prominent and small nucleoli?
A. Small nucleoli.
Q. So when it says prominent nucleoli, you think it means large?
A. Yes. You can see it from the picture underneath here (indicating).
Q. You pointed me to a picture here.
What is the acinar -- because it says: Note acinar grouping and cytoplasmic vacuole.

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Can you, with your pen, draw on that for me what they mean by the acinar grouping?
A. It's this round structure (indicating). There is a center, lumen, and then the cells are arranged around it.
And then the vacuole that they're talking about is here (indicating).
Q. And they talk about finely to coarsely granular chromatin. How does that correspond to the chromatin description that you found in this case?
A. Well, what they're saying is it can vary in the adenocarcinomas, and what I found was that it was a very fine chromatin pattern, not a coarse, granular chromatin pattern.
Q. Okay. I wanted to use your words though because your description of the -- I just see: Nuclear chromatin is condensed?
A. That's correct.
Q. That means it's fine as compared to being coarse?
A. Yes, it means the DNA is diffusely distributed but it's darker when you look at it.
Q. Would you characterize the cytoplasm in this -- in what you reviewed for Mr. Gardea as

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being delicate or wispy?
A. No.
Q. Would you describe the cytoplasm in Mr. Gardea as be finely to coarsely vacuolated?
A. It was not.
Q. Did you see any nuclear grooving in the nuclei?
A. Not really. It was more irregular nuclear contours and indentation.
Q. When it references eccentric location of nuclei in the cytoplasm, what does that mean?
A. And that's another key distinguishing feature. The nuclei are offset to the edge of the cytoplasm, whereas in mesothelioma the nuclei are centrally oriented in the cytoplasm.
Q. And so I can just draw in -- that dark spot at the edge of the cells is what you're referring to? It's not centered?
A. No, the cytoplasm around it -- and it's hard to see in this picture, but if we could draw a cell in an adenocarcinoma, the nuclei would be here at the edge (indicating), whereas in a mesothelioma, it's located in the center.
Q. And in this case, you noted central features of nuclei?

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A. Uniformly in almost all the cells.
Q. Did you see any intranuclear cytoplasmic inclusions?
A. No.
Q. Getting back up to the cell arrangement, did you note any nuclei that overlapped but did not mold around one another?
A. I don't recollect that, no.
Q. Common cell borders in cell clusters, is that characteristic of what you saw?
A. No.
Q. Occasional single cells?
A. Certainly more than occasional. It was -- predominantly most of them were single cells.
MR. PETEREIT: Can I mark that as an exhibit?
THE REPORTER: Sure.
(Defendants' Deposition Exhibit No. 7 was marked for identification by the reporter.)
Q. (BY MR. PETEREIT) You're familiar with Dr. Phillip Cagle, I'm sure?
A. Yes.
Q. Do you, by any chance, have this treatise or this textbook (indicating) in your

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collection or library?
A. I do not.
Q. And I'm referring to a book edited by Dr. Cagle, Diagnostic Pulmonary Pathology, Volume 142.
Page 557 of this -- and I've actually got two copies, so I don't have to keep standing over you on this one.
I'll wait until you get organized.
It's page 557. It should be in the first couple pages. There we go.
Do you note where Dr. Cagle states that: Identification of true invasion into the adjacent lung or subpleural soft tissue is the most reliable finding to confirm a diagnosis of a well-differentiated malignancy, particularly mesothelioma?
A. I see where he states that.
Q. Do you agree or disagree with that statement?
A. I disagree with it.
Q. What is your basis?
A. Again, in cytopathology, there are cellular changes that allow you to render a diagnosis of a well-differentiated malignancy,

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including a well-differentiated mesothelioma.
So the presence or absence of invasion, which is something we don't even consider in cytology, is not important in the cytologic diagnosis.
Q. Would you characterize the mitoses that you saw in this case as being normal or abnormal?
A. In terms of abnormal mitotic figures, I believe that they were occasional and typical of what you would see in a malignant cell.
Q. Would you expect to find normal or abnormal in a malignant cell?
A. Well, the difficulty I'm having is what you mean by "abnormal." For example, there can be tripolar and tetrapolar mitoses which are clearly abnormal or there can be mitotic figures where you have a telophase plate in both malignant and benign cells.
All I saw were splayed mitotic figures, which you can see in both benign and malignant conditions.
Q. Would you call the cytologic atypia in this case extensive, mild, or moderate?
A. In the malignant cells, it varied from